**EPA/ESD/R03-99/126**
**1999**

# EPA Superfund
# Explanation of Significant Differences:

## BUTZ LANDFILL
## EPA ID: PAD981034705
## OU 02
## STROUDSBURG, PA
## 08/27/1999

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
**REGION III**
**1650 Arch Street**
**Philadelphia, Pennsylvania 19103-2029**

**SUBJECT:** Explanation of Significant Differences for Butz Landfill, PA Transmittal Memo

**FROM:** Romuald A. Roman
Remedial Project Manager (3HS22)

**TO:** Abraham Ferdas
Director Of Hazardous Site Cleanup Division (3HS00)

**Date:** 08/24/99

Attached is the Explanation of Significant Differences (ESD) for the Butz Landfill Superfund Site (Site), Pocono and Jackson Townships, Monroe County, Pennsylvania. The ESD eliminates the ROD requirement to construct extraction wells at the perimeter of the area of contamination, and instead places the extraction wells at the zone of the highest TCE concentration. Additionally, the ESD uses maximum contaminant levels (MCLs) instead of "background" contaminant levels as the performance standards for cleanup of contaminants. There is also a significant reduction in the estimated cost of remedy. The changes to the remedy resulted from the following: a change in Pennsylvania law; new information relating to the natural attenuation of contaminants; and additional Site-specific information gained as a result of remedial design activities at the Site. The Pennsylvania Department of Environmental Protection (PADEP) concurred on the ESD by letter dated 8/19/1999.

# EXPLANATION OF SIGNIFICANT DIFFERENCES
# BUTZ LANDFILL SUPERFUND SITE

## I. INTRODUCTION

| | |
|---|---|
| Site Name: | Butz Landfill Superfund Site Site |
| Location: | Pocono and Jackson Townships, Monroe County, Pennsylvania |
| Lead Agency: | U.S. Environmental Protection Agency, Region III ("EPA") |
| Support Agency: | Pennsylvania Department of Environmental Protection ("PADEP") |

Statement of Purpose

This Explanation of Significant Differences ("ESD") is issued by the Environmental Protection Agency, Region 3, in accordance with Section 117 of the Comprehensive Environmental Response, Compensation and Liability Act, as amended, ("CERCLA"), 42 U.S.C. § 9617(c), and the National Oil and Hazardous Substances Pollution Contingency Plan ("NCP"), at 40 C.F.R. § 300.435(c)(2)(i), for the June 30, 1992 Record of Decision ("ROD") for Operable Unit Two of the Butz Landfill Superfund Site ("Site"), and is now a part of the Administrative Record for the Site. EPA has determined that the changes expressed in this ESD do not fundamentally alter the remedy selected in the June 30, 1992 ROD with respect to scope, performance or cost. The changes expressed in this ESD are: (1) the elimination of groundwater extraction wells at the perimeter of the area of contamination; (2) the use of maximum contaminant levels ("MCLs") or new applicable state standards instead of "background" contaminant levels as the performance standards for cleanup of contaminants; and (3) a significant reduction in the estimated cost of the remedy. The changes to the remedy resulted from the following: a change in Pennsylvania law; new information relating to the natural attenuation of contaminants; and additional Site-specific information gained as a result of remedial design activities at the Site.

In accordance with 40 C.F.R. § 300.825(a)(2), this ESD will become part of the administrative record file located at EPA, Region 3, and at the Pocono Township Public Library, Tannersville, Pennsylvania.

## II SUMMARY OF THE SITE HISTORY, SITE CONDITIONS, AND PRIOR SELECTED REMEDY

The Site is an area of groundwater contaminated with trichloroethene ("TCE") and other organic contaminants distributed over approximately one and one-half square miles. The contamination spans the boundary of Pocono and Jackson Townships in Monroe County, Pennsylvania. Well water contamination was first confirmed at the Site in 1971. EPA became involved at the Site in 1986 and provided bottled water and carbon filtration systems for residents whose home-well water supplies were contaminated. In November 1991, EPA finalized a Remedial Investigation and Feasibility Study, which determined the nature and extent of contamination at the Site. EPA found concentrations of TCE in the groundwater of up to 8,400 µg/l. EPA completed the construction of a complete municipal water supply system in December 1992 to further address the threat posed to area residents via the consumption of contaminated groundwater.

On June 30, 1992, EPA signed a ROD for Operable Unit Two of the Butz Landfill to address the cleanup of the contaminated groundwater. A complete description of the selected remedy as well as EPA's rationale for that decision is presented in the June 30, 1992 ROD, which is attached hereto as Exhibit 1. The major components of the selected remedy, as delineated in the ROD, are:

1 . The installation of groundwater extraction wells immediately down gradient of the area of suspected dense, non-aqueous phase liquids ("DNAPLs") and along the down gradient perimeter of the area of contaminated groundwater;

2. The construction of piping necessary to transport the extracted groundwater to an appropriate treatment facility;

3. The construction of treatment systems and the treatment of the extracted groundwater to discharge quality;

4. The disposal of the treated groundwater by discharge to local surface water streams;

5. The offsite disposal of any residuals produced during the treatment process;

6. The construction of access roads, electric power lines, etc., as necessary; and

7. The operation and maintenance of the groundwater extraction and treatment system until the performance standards are met. The cleanup standards selected for the in-situ groundwater were background levels, based on the identification of 25 PA Code §§ 264.97(i) and (j) and § 264.100(a)(9) as applicable or relevant and appropriate requirements ("ARARs") for the Site.

## III. DESCRIPTION OF SIGNIFICANT DIFFERENCES AND THE BASIS FOR THOSE DIFFERENCES

The significant differences between the remedy presented in the ROD and the remedy that will be implemented are:

1. As explained above, the ROD called for the installation of groundwater extraction wells immediately down gradient of the area of suspected DNAPLs and along the down gradient perimeter of the area of contaminated groundwater. Pursuant to this ESD, there will not be groundwater extraction wells placed or developed along the down gradient perimeter of the area of contaminated groundwater. The extraction wells will be placed along the zone in which the TCE concentrations in the groundwater range between 200 to 500 µg/l. This is the area in which DNAPLs were suspected at the time of the ROD. Recent research and experience at this Site and other similar sites indicate that natural attenuation of contaminants resulting in contaminant reductions takes place in groundwater aquifers, and that contaminants at lower concentrations can be expected to be further reduced in their concentrations within reasonable time frames as a result of that natural attenuation. See, for example, Memorandum entitled "Butz Landfill Site, Monroe County, Pennsylvania, Geochemical Data Evaluation," from John T. Wilson, Microbiologist, National Risk Management Research Laboratory, EPA, to Romuald Roman, Remedial Project Manager, Region III, EPA, dated April 6, 1999. Thus, currently available information indicates that, even without extraction of contaminated water at the down gradient edge of the plume, contaminant levels in this area will be reduced to MCLs within a reasonable time frame.

EPA has observed that there has been essentially no change in the down gradient extent of contamination since 1986, even with the high contaminant concentrations which have persisted in the groundwater in the area southeast of the Butz Landfill in the vicinity of wells R2 and RW-18. Thus, the groundwater contamination does not appear to be spreading down gradient. In addition, design work done since the ROD was signed indicates that the down gradient wells would capture a large amount of uncontaminated water from beyond the edge of the existing plume. Therefore, the Agency has determined that the extraction wells originally selected to be installed along the down gradient perimeter of the area of contamination are not necessary to meet the new in-situ performance standards, which are described in the next paragraph.

2. The in-situ performance standards for the groundwater contaminant concentrations will be the new state standards for methylene chloride and chlorobenzene and the maximum contaminant levels ("MCLs") established pursuant to the federal Safe Drinking Water Act for all other contaminants, rather than the "background" contaminant concentrations called for in the June 30, 1992 Record of Decision. Since the Record of Decision was signed, the Commonwealth of Pennsylvania regulations, upon which the "background" standard was based, have been superseded by the Land Recycling And Environmental Remediation Standards Act of

1995. The new State law contains cleanup standards for methylene chloride and chlorobenzene which are more stringent than the federal MCLs. For the other contaminants, the state standard is not more stringent than the federal MCLs, so the federal MCLs will now be the in-situ cleanup levels that must be met for those contaminants. The aquifer was the main drinking water source in the area until the contamination was discovered; it remains a potential drinking water source. Therefore, since the contaminants that have been found have Maximum Contaminant Level Goals ("MCLGs") of zero, the MCLs are relevant and appropriate requirements to be met in the groundwater plume. See 55 Fed.Reg. 8732-8735, 8752-8754 (1990). The change from background to the applicable state standard, or relevant and appropriate MCLs for each contaminant is shown in the following chart:

| CONTAMINANT | STANDARD IN 1992 ROD (mg/1) | MCL or State Std. (mg/1) |
|---|---|---|
| Trichloroethylene | Background | 0.005 |
| Trans-1,2-dicloroethane | Background | 0.005 |
| Vinyl Chloride | Background | 0.002 |
| Benzene | Background | 0.005 |
| Ethyl Benzene | Background | 0.7 |
| Tetrachloroethene | Background | 0.005 |
| Toluene | Background | 1.0 |
| Carbon Tetrachloride | Background | 0.005 |
| Chloroform | Background | 0.1 |
| 1, 1-dichloroethene | Background | 0.007 |
| Methylene Chloride[1] | Background | 0.003 |
| Chlorobenzene[1] | Background | 0.055 |

1. Methylene Cloride and Chlorobenzene are state standards

Because of the change in State law, EPA has decided to exercise its discretion and change

the ARAR for the in-situ cleanup standard from backgound to the new standards. Under the circumstances of this case, EPA has determined that this change is significant but not fundamental. All extracted groundwater still must meet levels which will allow for discharge into nearby surface water streams in compliance with discharge requirements, as identified in the original June 1992 ROD.

3. The June 30, 1992 ROD estimated the present worth cost of the preferred remedy (water extraction, treatment, and disposal) to range from $11,012,000 to $14,495,000 for construction, and estimated annual operation and maintenance ("O&M") costs to be between $561,000 and $861,000.

After implementing the other significant differences outlined in this ESD (i.e., elimination of extraction wells, at the down gradient perimeter and changing the in-situ performance standards), EPA estimates that the total cost of construction of the remedy will be $1,951,767.00 and the annual O&M costs will be $90,700.00 (in 1997 dollars). Thus, implementation of these changes will significantly diminish the cost of the remedy. See Memo entitled "Butz Landfill - Cost Effectiveness," from Romuald Roman, EPA to File, May 13, 1999, in the Administrative Record.

## IV. SUPPORT AGENCY COMMENTS

The above changes to the remedy have been coordinated with PADEP pursuant to 40 C.F.R. § 300.435(c)(2)(i). PADEP has concurred with the changes to the selected remedy as described in this ESD by letter dated August 19, 1999.

## V. AFFIRMATION OF STATUTORY DETERMINATIONS

Considering the new information that has been developed and the changes that have been made to the selected remedy, EPA has determined that the remedy, as modified by this ESD, remains protective of human health and the environment, complies with federal and State requirements that are applicable or relevant and appropriate to this remedial action, and is cost-effective. In addition, the revised remedy utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable for this Site.

## VI. PUBLIC AVAILABILITY

This ESD has been made part of the administrative record file, and a copy is available for viewing at these two locations:

United States Environmental Protection Agency
Region 3
1650 Arch Street
Philadelphia, Pennsylvania 19103

or

Pocono Township Public Library
Route 611 South
Tannersville, Pennsylvania 18372

Abraham Ferdas, Director
Hazardous Site Cleanup Division

8/27/99
Date